

Washington Gas

Utility Mapping GIS and Legacy Facilities



Mel Huey
Director
Pipeline Integrity & Compliance

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Agenda

- Background
- Where We Began
- The Vision
- Building a GIS
- Current Asset Management Solutions
- Continuous Input
- Going Forward



Background

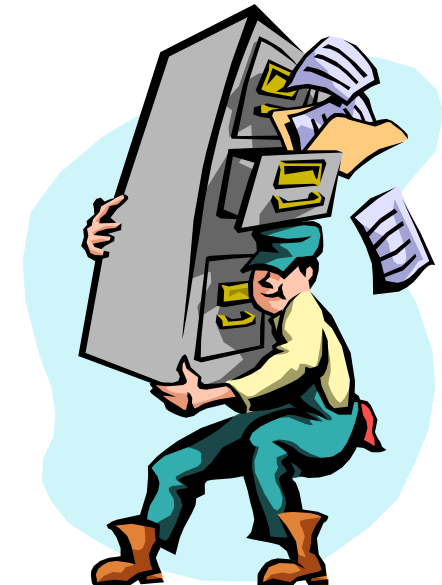
- WG is a 165 year old gas distribution utility

	Virginia	Total WG
Square Miles	3,457	6,213
Miles of Main	6,100	13,000
Number of Services	438,000	972,000
Valves/Critical Valves	20,991 / 2,435	47,288 / 5,866
Quad Maps (2,500' x 2,000')	3,434	7,690



Where We Began

- In 1977, our physical asset data consisted of the following disparate paper records:
 - 850,000+ Service Record Cards
 - 1,500+ Paper Maps
 - 11,000+ Valve Sheets
 - 400+ Regulator Station Drawings
 - 40,000+ Construction drawings/ field notes
- All maintained by over 50 Clerical and Drafting personnel





The Vision

- Better management of our Assets
 - Single repository of facilities data
 - Data consistency
 - Statistical & analytical reports
- A graphical model that depicts the physical relationships of our piping infrastructure
 - Identify all facilities that provide service to any given customer



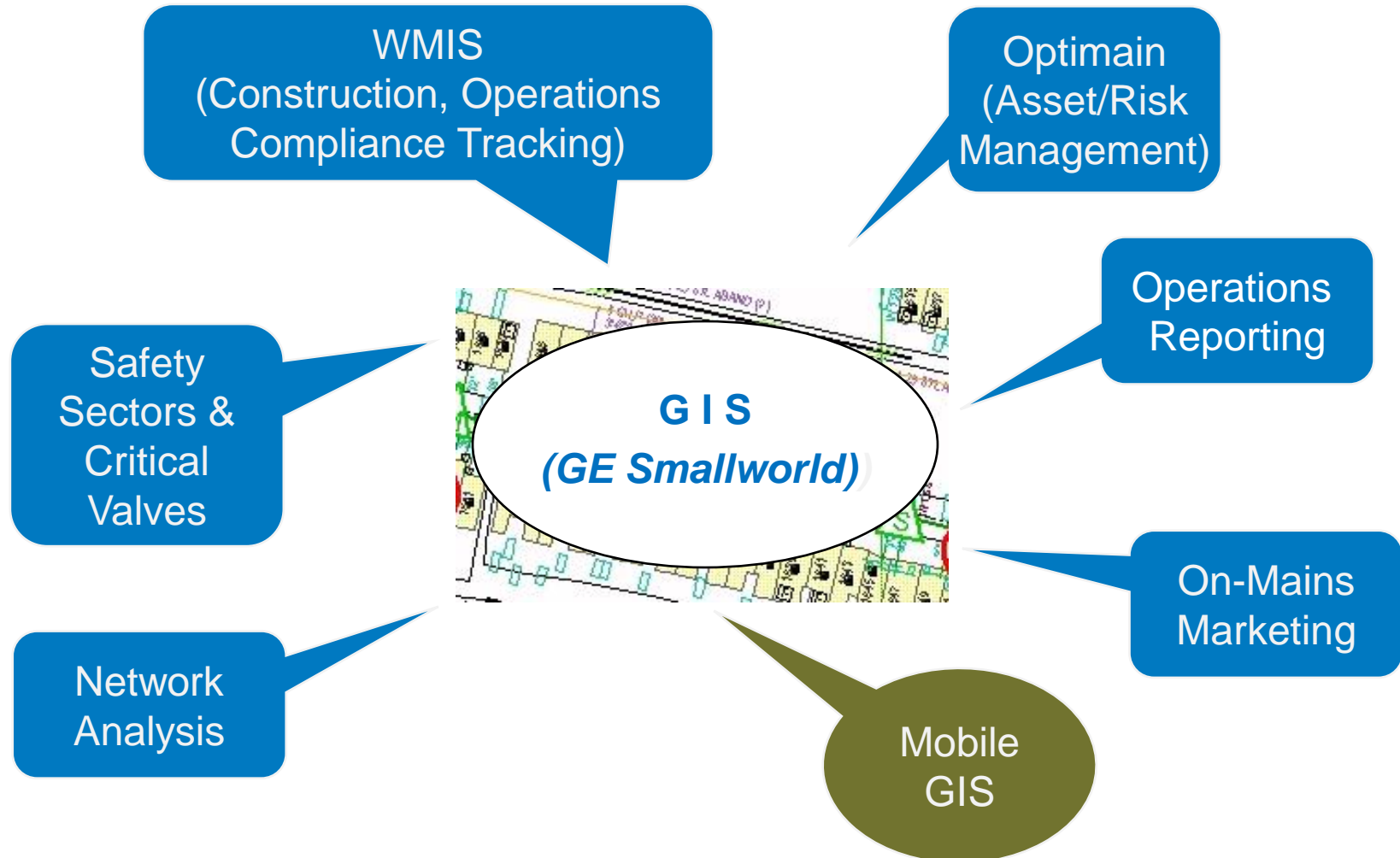


Building a GIS

Components	Back Then	Now
Hardware	Main-frame (to hold data)	Typically client/server/web
Software	Special algorithms to develop: - Spatial relationships - Hardware drivers	Off the shelf - part of a typical GIS installation
Data Model	Developed from connectivity vision using Hierarchical Database	Numerous standardized models for Electric, Gas, Water & Telephone
Landbase	Developed from “fly-over” Fully vectorized to save disk storage	Numerous vendors providing raster and street map info
Facilities/ Assets	Vectorized from maps	Still the most expensive aspect of GIS, even with GPS

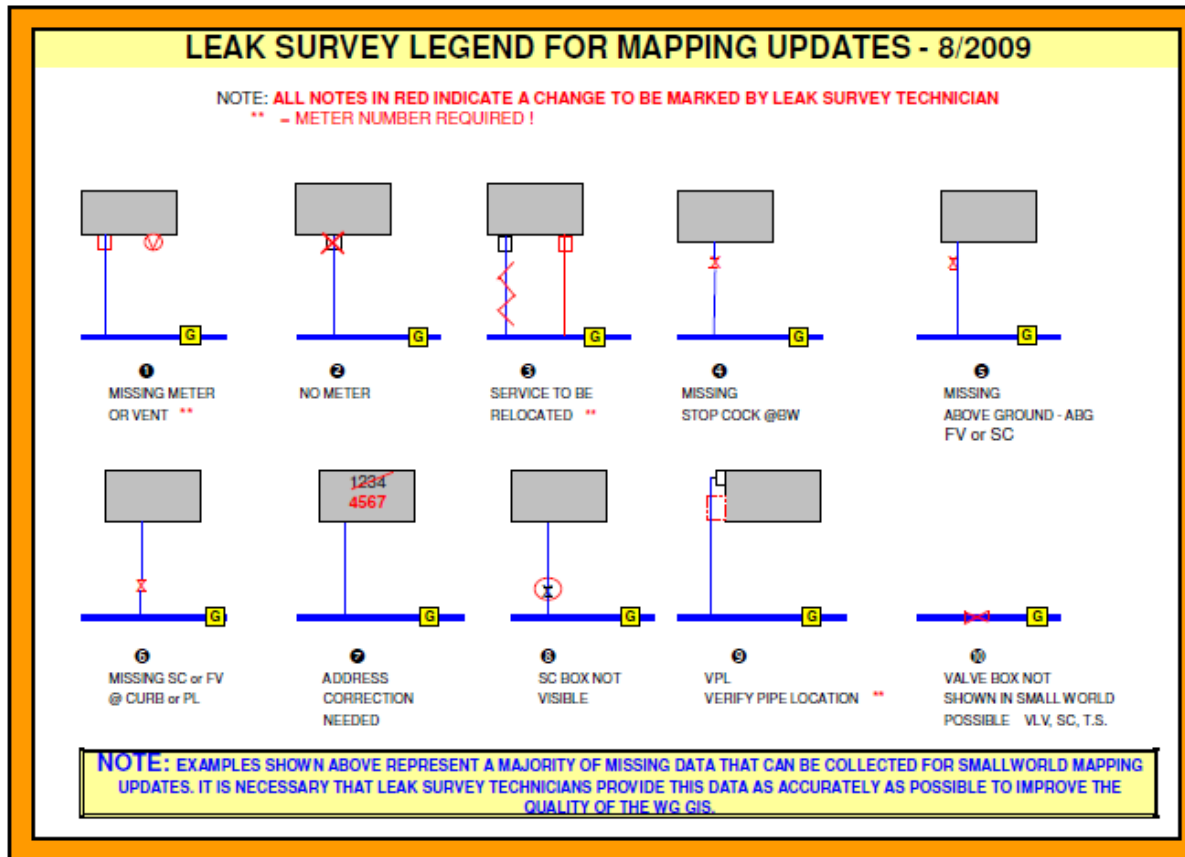


Current Asset Management Solutions





Continuous Input

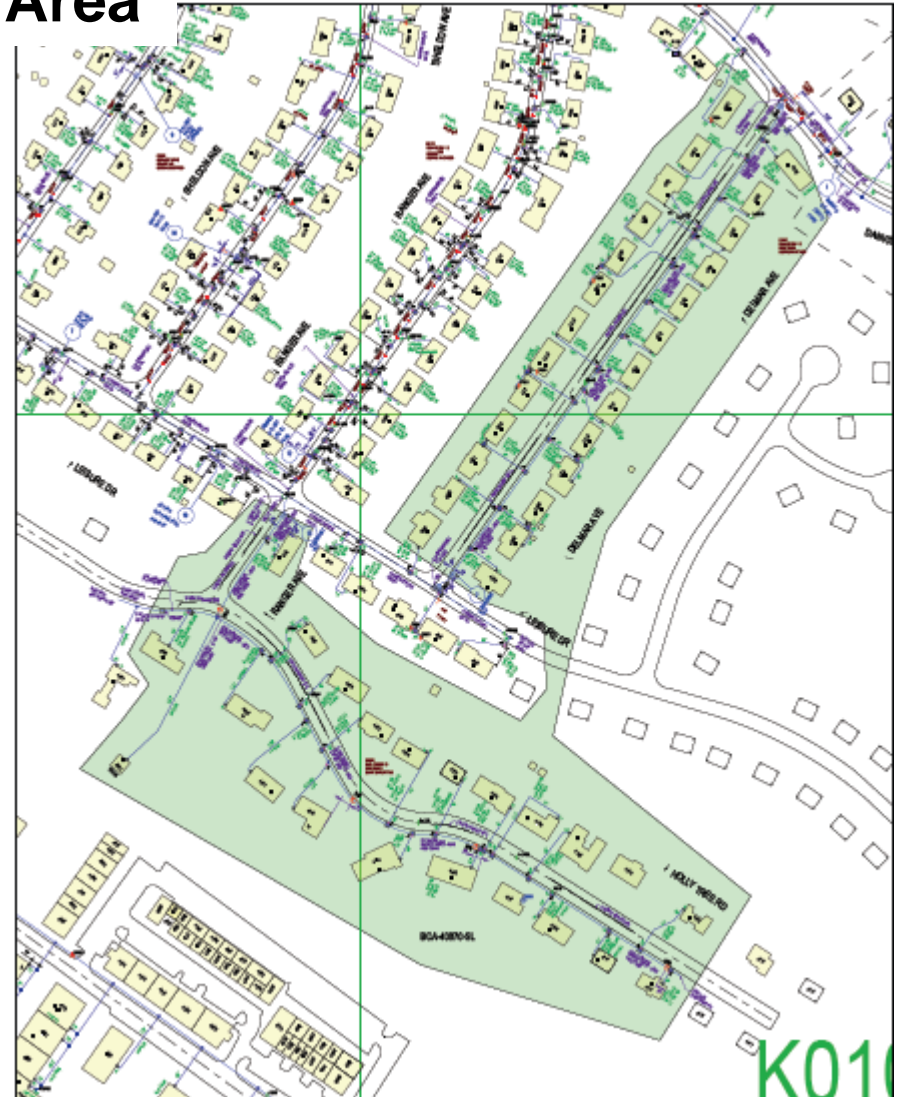


- As-Builts
- Field Checks



Sewer Lateral Inspection Area

- Identify HDD locations of legacy projects through records research
- Overlay sewer and gas piping maps to determine suspected cross-bore locations - - - **polygons in our mapping system**





Going Forward

ma·tu·ri·ty [muh – chur – i - tee]

1. the state of being mature; completeness,
2. full development; perfected condition

After 25 years, we are still adding to the mapping system

- More attributes
- QA
- Enhancements
 - Now
 - Future opportunities